Haglund's deformity with Achilles old partial rupture and chronic degeneration: a novel technique combining ultrasound and endoscopic approach

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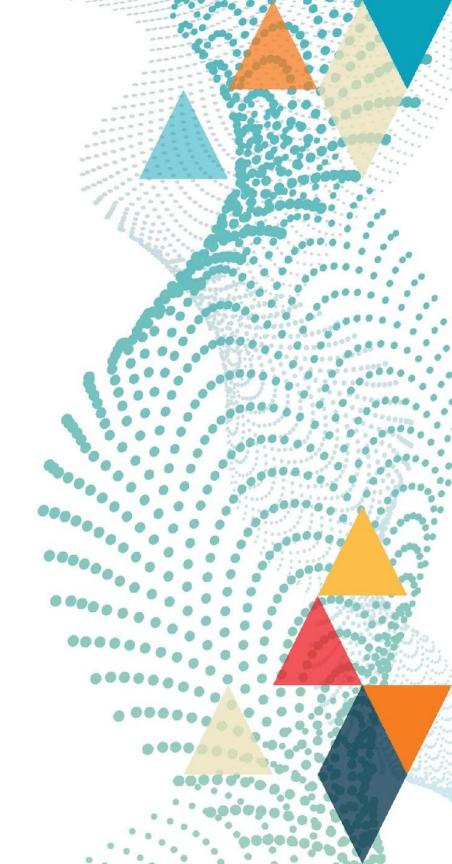




Faculty Disclosure Information

Nothing to disclosure.





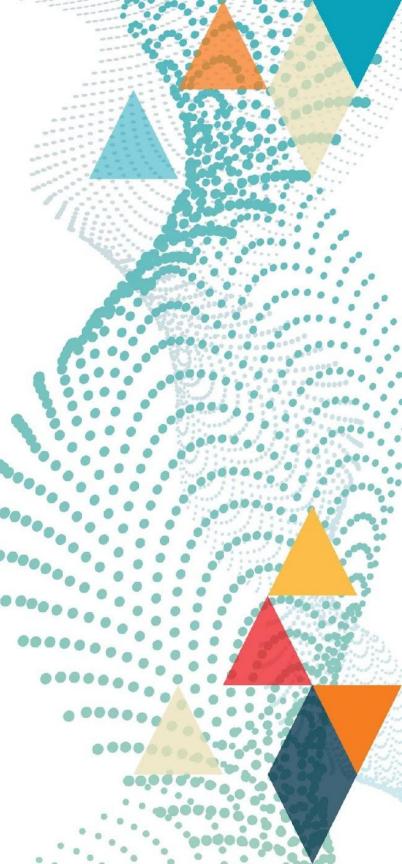
Objective: To describe a combined ultrasound and endoscopic surgical technique for the minimally invasive treatment of Haglund's deformity and anterior calcifications of the Achilles tendon in chronic tendinopathy sequelae of partial rupture.

Patient background: 57-year-old amateur runner with pain in the posterior region of the right foot on sports activities.

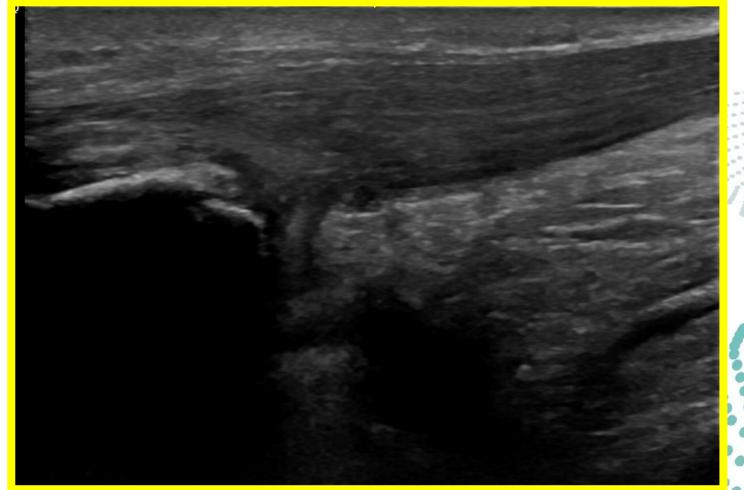
Previously received open surgical treatment to perform an Achilles tendon shaving due to chronic degeneration caused by an old partial tear, without improving his symptoms.









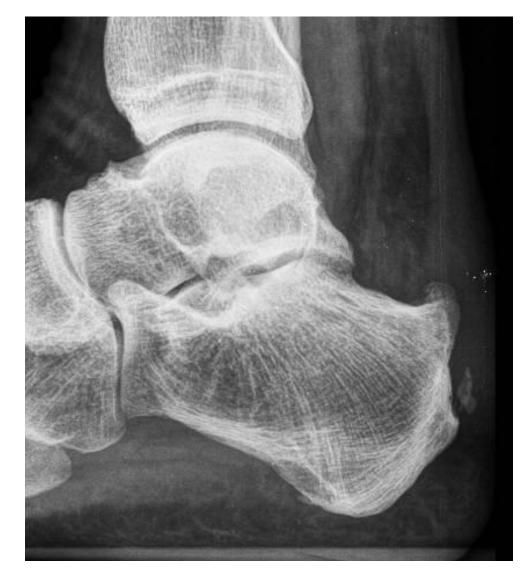


This scenario makes minimally invasive surgery a good option











Haglund's deformity Chronic bursitis

Tendon calcifications Fibrotic and poor- quality skin tissue







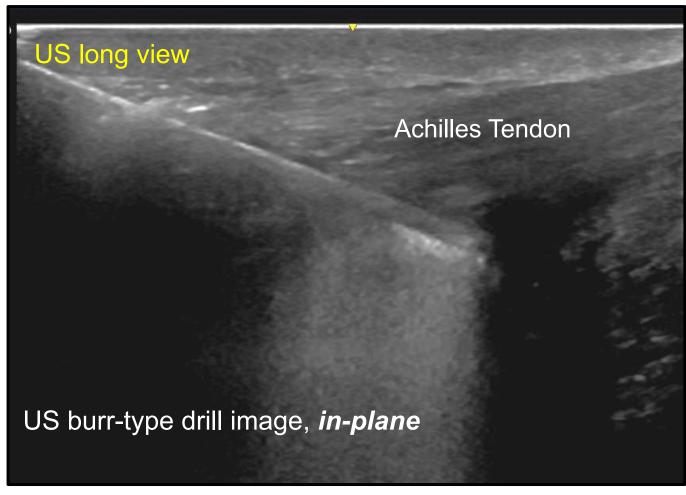
Prone position

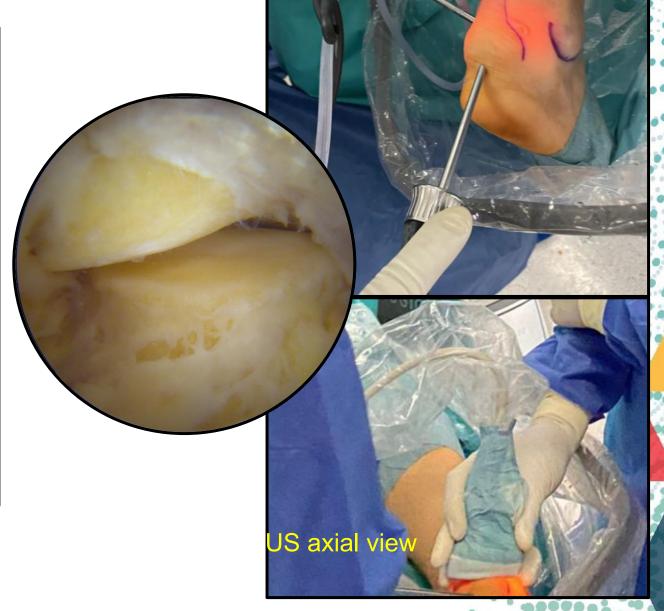
Conventional posterolateral and posteromedial endoscopic portals, and two other accessories portals:

Distal-posterolateral

Distal-central-transtendinous

Begin by resecting the synovitis that these cases usually present with a shaver, using the posterolateral portal



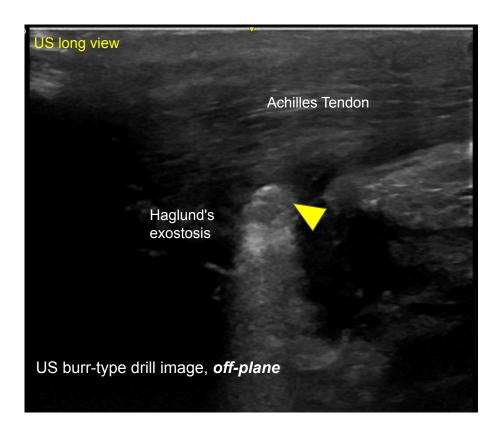


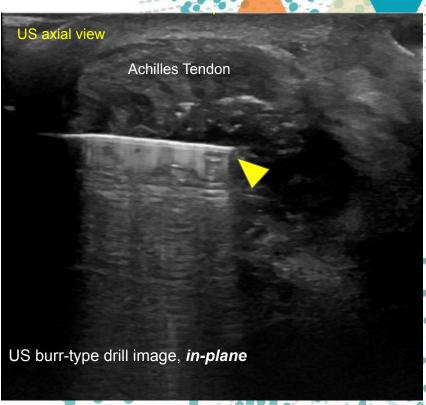


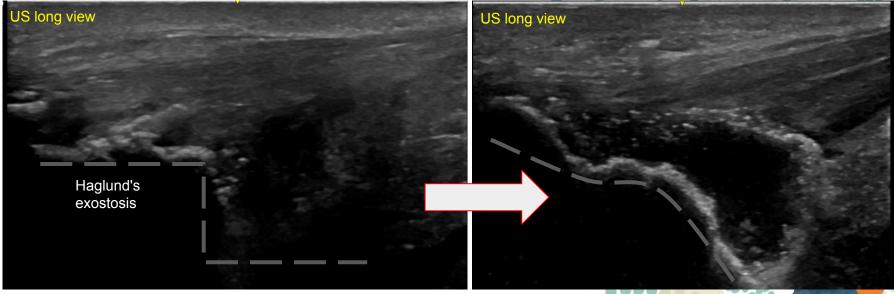
With a **burr-type drill** (), proceed to perform the resection of Haglund's exostosis <u>from</u> <u>proximal to distal</u> to the last insertional portion of the Achilles tendon

Ultrasound assistance allows direct monitoring without radiation, with a margin of **extreme precision of all the structures** to be intervened, both bone and soft tissue, being especially helpful when resecting more anterior tendon calcifications.

At this point the ultrasound assistance is crucial. It is essential and practical to **change portals** for a <u>complete</u> resection on **both sides**, and for optimal **removal of the remaining bone debris** from the procedure.









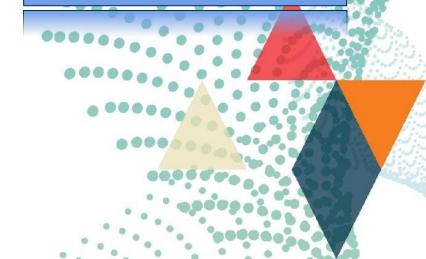
Conclusions:

- ★ This technique offers advantages mainly by caring for soft tissues when they are delicate, strict control of the Achilles tendon shaving.
- ★ Live ultrasound allows us to safely guide to where the tendon changes from tendinopathic to healthy, minimizing damage and to perfectly identify Haglund's deformity thanks to the hyperechogenic reflectance of the cortical bone, making the use of intraoperative fluoroscopy unnecessary.



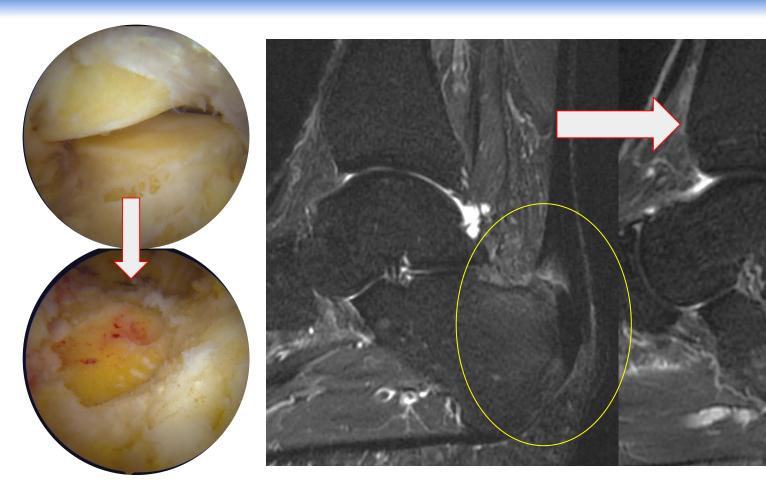
These advantages,
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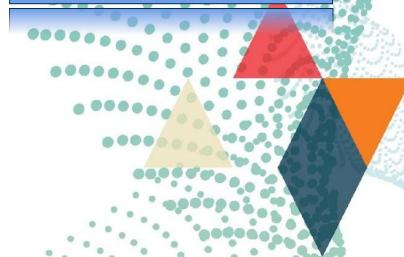
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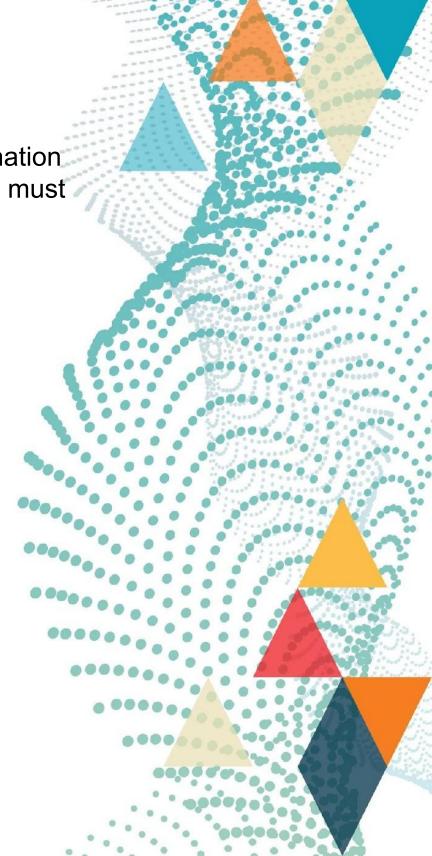




Advice: as it is a novel technique, the coordination between the team (surgeon and sonographer) must be trained.







References:

- -Lui et al. Minimally Invasive and Endoscopic Treatment of Haglund Syndrome. Foot Ankle Clin N Am 24 (2019) 515–531
- -Madarevic, T., et al. Ultrasound-assisted calcaneoplasty. Knee Surg Sports Traumatol Arthrosc. DOI 10.1007/s00167-013-2692-8. 2013
- -Masci L, Alfredson H, Neal B, et al. Ultrasound- guided tendon debridement improves pain, function and structure in persistent patellar tendinopathy: short term follow- up of a case series. BMJ Open Sport & Exercise Medicine 2020;6:e000803. doi:10.1136/ bmjsem-2020-000803
- -Ortmann, F., et al. M.D.; McBryde, A, M.D. Endoscopic Bony and Soft-Tissue Decompression of the Retrocalcaneal Space for the Treatment of Haglund Deformity and Retrocalcaneal Bursitis. Foot & Ankle International/Vol. 28, No. 2/February 2007.
- -van Dijk, N, et al. Endoscopic Calcaneoplasty. The American Journal of Sports Medicine. Vol. 29, No. 2. 2001.
- -Willberg, L., et al. Ultrasound- and Doppler-guided arthroscopic shaving to treat Jumper's knee: a technical note. Knee Surg Sports Traumatol Arthrosc (2007) 15:1400–1403

